

IN THE CLAIMS

Please amend the claims as shown below.

1. (Canceled)
2. (Previously Presented) The method of claim 14, further including an act of:
(c) denying the non-media access request when it is determined in the act (a) that the first device is not authorized to have non-media access to the logical device.
3. (Original) The method of claim 2, wherein the act (c) includes an act of:
ignoring the non-media access request.
4. (Original) The method of claim 2, wherein the act (b) includes an act of:
forwarding the non-media access request to a physical device corresponding to the logical device.
5. (Previously Presented) The method of claim 14, wherein the non-media access request is an availability request to determine an availability of the logical device, and wherein the act (b) includes an act of:
forwarding the availability request to a physical device corresponding to the logical device.
6. (Previously Presented) The method of claim 14, further including acts of:
(c) in response to a data access request by the first device to the logical device, determining whether the first device has data access privileges to the logical device; and
(d) authorizing the data access request when it is determined in the act (c) that the first device has data access privileges to the logical device.
7. (Original) The method claim 6, further including an act of:

(e) denying the data access request when it is determined in the act (c) that the first device has no data access privileges to the logical device.

8. (Previously Presented) The method of claim 14, wherein the acts (a) and (b) are performed by a filter that controls access to a plurality of logical devices at the storage system, the method further including an act of:

(c) maintaining, in a data structure accessible to the filter, configuration information corresponding to the first device, the configuration information including;

(1) first configuration information identifying each of the plurality of logical devices to which data access by the first device is authorized; and

(2) whether non-media access is authorized to each of the plurality of logical devices for which the first configuration information identifies that no data access is authorized for the first device.

9. (Original) The method of claim 8, wherein the act (a) includes an act of:
examining the configuration information corresponding to the first device to determine whether the first device is authorized to have non-media access to the logical device.

10. (Previously Presented) The method of claim 14, wherein the acts (a) and (b) are performed by a filter that controls access to a plurality of logical devices at the storage system, the method further including an act of:

(c) maintaining, in a data structure accessible to the filter, configuration information corresponding to the first device, the configuration information identifying;

(1) each of the plurality of logical devices to which data access by the first device is authorized; and

(2) each of the plurality of logical devices to which non-media access by the first device is authorized.

11. (Previously Presented) The method of claim 14, further including an act of:

(c) determining whether an access request by the first device is one of a data access request and a non-media access request.

12. (Canceled).

13. (Canceled).

14. (Currently Amended) A method for managing access to a storage system by a plurality of devices that are coupled to the storage system via a network, the method including acts of:

(a) in response to a non-media access request by a first of the plurality of devices to a logical ~~device~~ volume at the storage system for which the first device has no data access privileges, determining, based, at least in part, on an identity of the first device, whether the first device is authorized to have non-media access to the logical ~~device~~ volume;

(b) authorizing the non-media access request when it is determined in the act (a) that the first device is authorized to have non-media access to the logical ~~device~~ volume;

~~wherein the act (a) includes an act of, in response to the non-media access request by the first device to a logical volume of data at the storage system for which the first device has no data access privileges, determining whether the first device is authorized to have non-media access to the logical volume;~~

~~wherein the act (b) includes an act of authorizing the non-media access request when it is determined in the act (a) that the first device is authorized to have non-media access to the logical volume; and~~

wherein the acts (a) and (b) are performed outside of the storage system.

15. (Canceled).

16. (Previously Presented) The method of claim 22, further including an act of:

(d) denying the non-media access request when it is determined in the act (b) that the first device is not authorized to have non-media access to the first logical volume.

17. (Original) The method of claim 16, wherein the act (c) includes an act of:
forwarding the non-media access request to a physical device corresponding to the first logical volume.

18. (Previously Presented) The method of claim 22, wherein the act (c) includes an act of:
forwarding the non-media access request to a physical device corresponding to the first logical volume.

19. (Previously Presented) The method of claim 22, further including acts of:
(d) in response to a data access request by the first device to the first logical volume, determining whether the first device has data access privileges to the first logical volume; and
(e) authorizing the data access request when it is determined in the act (d) that the first device has data access privileges to the first logical volume.

20. (Original) The method claim 19, further including an act of:
(f) denying the data access request when it is determined in the act (d) that the first device has no data access privileges to the first logical volume.

21. (Canceled)

22. (Previously Presented) A method for managing access to a storage system by a plurality of devices that are coupled to the storage system via a network, the storage system including a plurality of logical volumes of data, the method including acts of:

(a) maintaining, in a data structure that is accessible to a filter that controls access to each of the plurality of logical volumes, configuration information identifying each logical volume of the plurality of logical volumes to which data access by a first device of the plurality of devices is authorized;

(b) in response to a non-media access request by the first device to a first logical volume for which the first device has no data access privileges, determining, based, at least in part, on an identity of the first device, whether the first device is authorized to have non-media access to the first logical volume; and

(c) authorizing the non-media access request when it is determined in the act (b) that the first device is authorized to have non-media access to the first logical volume;

wherein the filter is outside of the storage system, and wherein the acts (a), (b), and (c) are performed outside of the storage system.

23. (Previously Presented) The method of claim 22, further including an act of:

(d) determining whether an access request by the first device is one of a data access request and a non-media access request.

24. (Previously Presented) The method of claim 22, wherein the non-media access request is an availability request to determine an availability of the first logical volume, and wherein the act (c) includes an act of:

forwarding the availability request to a physical storage device corresponding to the first logical volume.

25. (Previously Presented) The method of claim 22, wherein the act (a) includes an act of:

maintaining, in the data structure that is accessible to the filter, configuration information that includes first configuration information identifying each logical volume of the plurality of logical volumes to which data access by the first device is authorized and second configuration information identifying whether non-media access is authorized to each of the plurality of logical volumes for which the first configuration information identifies that no data access is authorized for the first device.

26. (Original) The method of claim 25, wherein the act (b) includes an act of:

examining the second configuration information to determine whether the first device is authorized to have non-media access to the first logical volume.

27. (Previously Presented) The method of claim 22, wherein the act (a) includes an act of:

maintaining, in the data structure that is accessible to the filter, configuration information that identifies each logical volume of the plurality of logical volumes to which data access by the first device is authorized and each of the plurality of logical volumes to which non-media access by the first device is authorized.

28. (Canceled)

29. (Previously Presented) The apparatus of claim 42, wherein when it is determined that the first device is not authorized to have non-media access to the logical device, the at least one filter denies the non-media access request.

30. (Previously Presented) The apparatus of claim 29, wherein the storage system includes a plurality of storage devices coupled to the at least one filter, and wherein when it is determined that the first device is authorized to have non-media access to the logical device, the at least one filter forwards the non-media access request to a storage device corresponding to the logical device.

31. (Previously Presented) The apparatus of claim 42, wherein when it is determined that the first device is not authorized to have non-media access to the logical device, the at least one filter ignores the non-media access request.

32. (Previously Presented) The apparatus of claim 42, wherein:
the storage system includes a plurality of storage devices coupled to the at least one filter;
the non-media access request is an availability request to determine an availability of the logical device; and

when it is determined that the first device is authorized to have non-media access to the logical device, the at least one filter forwards the request to a storage device corresponding to the logical device.

33. (Previously Presented) The apparatus of claim 42, wherein in response to a data access request by the first device to the logical device, the at least one filter determines whether the first device has data access privileges to the logical device;

wherein the at least one filter authorizes the data access request when it is determined that the first device has data access privileges to the logical device; and

wherein the at least one filter denies the data access request when it is determined that the first device has no data access privileges to the logical device.

34. (Previously Presented) The apparatus of claim 42, wherein the apparatus further comprises:

a data structure, accessible to the at least one filter, that stores configuration information corresponding to the first device that includes first configuration information identifying each of a plurality of logical devices at the storage system to which data access by the first device is authorized, and second configuration information identifying whether non-media access is authorized to each of the plurality of logical devices for which the first configuration information identifies that no data access is authorized for the first device.

35. (Original) The apparatus of claim 34, wherein the at least one filter examines the second configuration information corresponding to the first device to determine whether the first device is authorized to have non-media access to the logical device.

36. (Previously Presented) The apparatus of claim 42, wherein the apparatus further comprises:

a data structure, accessible to the at least one filter, that stores configuration information corresponding to the first device that identifies each of a plurality of logical devices at the

storage system to which data access by the first device is authorized and each of the plurality of logical devices to which non-media access by the first device is authorized.

37. (Previously Presented) The apparatus of claim 42, wherein in response to an access request by the first device to the logical device, the at least one filter examines the access request to determine whether the access request is one of a data access request and a non-media access request.

38. (Canceled)

39. (Previously Presented) The apparatus of claim 42, in combination with the storage system, wherein the at least one filter and the input each is disposed within the storage system.

40. (Previously Presented) The apparatus of claim 42, further comprising:
a data structure, accessible to the at least one filter, that stores configuration information corresponding to the first device that includes first configuration information identifying each of a plurality of logical volumes of data stored at the storage system to which data access by the first device is authorized, and second configuration information identifying whether non-media access is authorized to each of the plurality of logical volumes for which the first configuration information identifies that no data access is authorized for the first device.

41. (Canceled).

42. (Previously Presented) An apparatus for use in a computer system including a plurality of devices, a storage system, and a network that couples the plurality of devices to the storage system, the apparatus comprising:

an input to be coupled to the network; and

at least one filter, coupled to the input, that is responsive to a non-media access request by a first of the plurality of devices to a logical device at the storage system for which the first

device has no data access privileges, to determine, based, at least in part, on an identity of the first device, whether the first device is authorized to have non-media access to the logical device, and to authorize the non-media access request when it is determined that the first device is authorized to have non-media access to the logical device'

wherein the logical device is a logical volume of data stored at the storage system; and

wherein in response to the non media access request by the first device to the logical volume of data at the storage system for which the first device has no data access privileges, the at least one filter determines whether the first device is authorized to have non-media access to the logical volume, and authorizes the non media access request when it is determined that the first device is authorized to have non-media access to the logical volume; and

wherein the at least one filter and the input each is disposed outside of the storage system.

43-48. (Canceled)

49. (Previously Presented) The apparatus of claim 58, wherein when it is determined that the first device is not authorized to have non-media access to the first logical volume of data, the at least one filter denies the non-media access request.

50. (Original) The apparatus of claim 49, wherein the storage system includes a plurality of storage devices coupled to the at least one filter, and wherein when it is determined that the first device is authorized to have non-media access to the first logical volume of data, the at least one filter forwards the non-media access request to a storage device corresponding to the first logical volume of data.

51. (Previously Presented) The apparatus of claim 58, wherein when it is determined that the first device is not authorized to have non-media access to the first logical volume of data, the at least one filter ignores the non-media access request.

52. (Previously Presented) The apparatus of claim 58, wherein in response to a data access request by the first device to the first logical volume of data, the at least one filter

determines, based upon the configuration information stored in the data structure, whether the first device has data access privileges to the first logical volume of data;

wherein the at least one filter authorizes the data access request when it is determined that the first device has data access privileges to the first logical volume of data; and

wherein the at least one filter denies the data access request when it is determined that the first device has no data access privileges to the first logical volume of data.

53. (Previously Presented) The apparatus of claim 58, wherein the configuration information stored in the data structure further identifies whether non-media access by the first device is authorized for each of the plurality of logical volumes of data stored on the storage system.

54. (Previously Presented) The apparatus of claim 58, wherein the configuration information stored in the data structure is first configuration information, the data structure further including second configuration information that identifies whether non-media access is authorized to each of the plurality of logical volumes of data for which the first configuration identifies that no data access is authorized for the first device.

55. (Original) The apparatus of claim 54, wherein the at least one filter examines the second configuration information to determine whether the first device is authorized to have non-media access to the logical device.

56. (Previously Presented) The apparatus of claim 58, wherein in response to an access request by the first device to the first logical volume of data, the at least one filter examines the access request to determine whether the access request is one of a data access request and a non-media access request.

57. (Canceled)

58. (Previously Presented) An apparatus for use in a computer system including a plurality of devices, a storage system, and a network that couples the plurality of devices to the storage system, the apparatus comprising:

an input to be coupled to the network;

a data structure that stores configuration information identifying each logical volume of data of a plurality of logical volumes of data stored on the storage system to which data access by a first device of the plurality of devices is authorized; and

at least one filter, coupled to the input, that is responsive to a non-media access request by the first device to a first logical volume of data of the plurality of logical volumes of data for which the first device has no data access privileges, to determine, based, at least in part, on an identity of the first device, whether the first device is authorized to have non-media access to the first logical volume of data, and to authorize the non-media access request when it is determined that the first device is authorized to have non-media access to the first logical volume of data;

wherein the at least one filter, the data structure, and the input each is disposed outside of the storage system.

59. (Previously Presented) An apparatus for use in a computer system including a plurality of devices, a storage system, and a network that couples the plurality of devices to the storage system, the apparatus comprising:

an input to be coupled to the network;

a data structure that stores configuration information identifying each logical volume of data of a plurality of logical volumes of data stored on the storage system to which data access by a first device of the plurality of devices is authorized; and

at least one filter, coupled to the input, that is responsive to a non-media access request by the first device to a first logical volume of data of the plurality of logical volumes of data for which the first device has no data access privileges, to determine, based, at least in part, on an identity of the first device, whether the first device is authorized to have non-media access to the first logical volume of data, and to authorize the non-media access request when it is determined that the first device is authorized to have non-media access to the first logical volume of data;

wherein the at least one filter and the input each is disposed within the storage system, and wherein the data structure is disposed outside of the storage system.

60-66. (Canceled)

67. (Previously Presented) The apparatus of claim 59, wherein when it is determined that the first device is not authorized to have non-media access to the first logical volume of data, the at least one filter denies the non-media access request.

68. (Previously Presented) The apparatus of claim 67, wherein the storage system includes a plurality of storage devices coupled to the at least one filter, and wherein when it is determined that the first device is authorized to have non-media access to the first logical volume of data, the at least one filter forwards the non-media access request to a storage device corresponding to the first logical volume of data.

69. (Previously Presented) The apparatus of claim 59, wherein when it is determined that the first device is not authorized to have non-media access to the first logical volume of data, the at least one filter ignores the non-media access request.

70. (Previously Presented) The apparatus of claim 59, wherein in response to a data access request by the first device to the first logical volume of data, the at least one filter determines, based upon the configuration information stored in the data structure, whether the first device has data access privileges to the first logical volume of data;

wherein the at least one filter authorizes the data access request when it is determined that the first device has data access privileges to the first logical volume of data; and

wherein the at least one filter denies the data access request when it is determined that the first device has no data access privileges to the first logical volume of data.

71. (Previously Presented) The apparatus of claim 59, wherein the configuration information stored in the data structure further identifies whether non-media access by the first

device is authorized for each of the plurality of logical volumes of data stored on the storage system.

72. (Previously Presented) The apparatus of claim 59, wherein the configuration information stored in the data structure is first configuration information, the data structure further including second configuration information that identifies whether non-media access is authorized to each of the plurality of logical volumes of data for which the first configuration identifies that no data access is authorized for the first device.

73. (Previously Presented) The apparatus of claim 72, wherein the at least one filter examines the second configuration information to determine whether the first device is authorized to have non-media access to the logical device.

74. (Previously Presented) The apparatus of claim 59, wherein in response to an access request by the first device to the first logical volume of data, the at least one filter examines the access request to determine whether the access request is one of a data access request and a non-media access request.